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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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24498 7590 10/27/2010 Robert D. Shedd, Patent Operations THOMSON Licensing LLC P.O. Box 5312 Princeton, NJ 08543-5312				
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HOLDER, ANNER N				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,972

Applicant(s)

BOYCE ET AL.

Examiner

ANNER HOLDER

Art Unit

2483

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,9-15,19,21 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,9-15,19,21 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/07/09; 08/08/08; 01/29/07; 01/16/07; 10/30/06; 07/21/05.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 08/16/10 have been fully considered but they are not persuasive. Regarding Applicant's arguments the Examiner respectfully disagrees. As to arguments present concerning claim 15, Matsushima discloses a decoder, [fig. 5 (15a and 15b); fig. 7 (15a and 15b)] coupled to the demultiplexer [fig. 6 (14)] and responsive to the error representative signal, for reproducing a content representative signal at a selectable desired quality. [abstract; fig. 6 (15a, 15b); col. 10 lines 32-40, 46-65; col. 11 lines 36-60] when correcting means fails an error signal is received by the decoder as well the selecting means chooses the hindrance mode thus selecting the quality of the image. [col. 11 lines 36-60] Applicant's claim limitations do not require a certain mode of operation for the selection of image quality. Matsushima discloses the selection of image quality based upon the mode selection, which reads upon the claim limitations. Matsushima discloses the encoding and decoding of image data. The encoded signal contains information about "the respective qualities" where the encoded signal is transmitted to the decoder which performs mirror operations of an encoder.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-16, 19, 24, and 27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 8-17, 19, 24, 29, and 32 of copending Application No. 10/543045 in view of Yun US 6,700,624.

Present 10/542972	Application	1, 2, 5	9-15	19	24	27
Co-pending 10/543045	Application	1, 2, 5	11-17	24	29	32

4. Claim 1 of the present application 10/542972 discloses as per co-pending application 10/543045 a method for storing staggercasted content, comprising the steps of: encoding a set of signals representing content, the set capable of being decoded to produce a corresponding set of decoded signals, each decoded signal

having a quality different from the qualities of the decoded signals corresponding to the other encoded signals; generating a composite signal comprising the set of encoded signals staggered in time; extracting the set of encoded signals from the composite signal; detecting errors in the set of extracted encoded signals to produce a subset of available extracted encoded signals which are not erroneous; decoding a content representative signal at a selectable desired quality. The instant application However does not explicitly disclose storing the decoded content representative signal in a storage device.

Yun discloses storing the decoded content representative signal in a storage device. [fig. 7 (600 and 600-1); col. 5 lines 42-60; - it is well known in the art that a frame buffer is a video output device that drives a video display from a memory buffer containing a complete frame of data. Therefore, it is well known in the art that a frame buffer is a required component of the decoder for displaying of video data.]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Yun with the device of Matsushima allowing for viewer selection of preferred viewing quality of transmitted video.

Claim 2 of the present corresponds with claim 2 of the copending application.

Claim 5 of the present corresponds with claim 5 of the copending application.

Claim 9 of the present corresponds with claim 11 of the copending application.

Claim 10 of the present corresponds with claim 12 of the copending application.

Claim 11 of the present corresponds with claim 13 of the copending application.

Claim 12 of the present corresponds with claim 14 of the copending application.

Claim 13 of the present corresponds with claim 15 of the copending application.

Claim 14 of the present corresponds with claim 16 of the copending application.

Claim 15 of the present corresponds with claim 17 of the copending application.

Claim 19 of the present corresponds with claim 24 of the copending application.

Claim 24 of the present corresponds with claim 29 of the copending application.

Claim 27 of the present corresponds with claim 32 of the copending application.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 5, 9, 10, 15, 19, 21 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. US 6,535,717 in view of Yun US 6,700,624.

7. As to claim 1, Matsushima teaches method for staggercasting, [abstract; figs. 3-5; col. 8 lines 31-40] comprising the steps of: encoding a set of signals representing content, [fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] the set capable of being decoded to produce a corresponding set of decoded signals, [fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65] each decoded signal having a quality different from the qualities of the decoded signals corresponding to the other encoded signals; [fig. 6 (15a, 15b); col. 10 lines 32-40, col. 10 lines 13-20 - modulated signal is up converted and amplified; col.

11 lines 18-25 - signal is down converted and demodulated; col. 10 lines 53 - col. 11 lines 6; the signals represent differing qualities being high quality signals and low quality signals] generating a composite signal comprising the set of encoded signals staggered in time; [abstract; fig. 3; fig. 5; col. 8 line 56 - col. 9 line 19 (emphasis col. 9 lines 9-14 - the delay staggers the signals in time)] extracting the set of encoded signals from the composite signal; [fig. 6; col. 10 lines 46-65 (emphasis lines 50-52)] extracts the composites signals in detecting errors in the set of extracted encoded signals to produce a subset of available extracted encoded signals which are not erroneous; [fig. 6; col. 10 lines 46-65; col. 11 lines 36-60] and decoding a content representative signal at a selectable desired quality; [abstract; fig. 6 (15a, 15b); col. 10 lines 32-40, 46-65; col. 11 lines 36-60] wherein the step of generating a composite signal [abstract; figs. 3-5; col. 8 lines 31-40] wherein the decoding step comprises the step of selecting the content representative signal at the desired quality automatically; [col. 10 line 53 - col. 11 line 6] and wherein the step of selecting the desired quality automatically comprises the step of selecting desired quality in response to preset selection parameters. [col. 10 line 53 - col. 11 line 6 - the present modes represents the selection parameter]

Matsushima does not explicitly teach the step of further including a signal carrying information about respective qualities of the encoded set of signals.

Yun teaches the step of further including a signal carrying information about respective qualities of the encoded set of signals; [abstract; col. 3 lines 26-54; col. 4 lines 2-8, 30-44; fig. 11; col. 10 lines 8-16]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Yun with the device of Matsushima allowing for viewer selection of preferred viewing quality of transmitted video.

8. As to claim 2, Matsushima (modified by Yun) teaches wherein if a content representative signal at the desired quality is not available, decoding a content representative signal at a selectable desired quality from the subset of available extracted encoded signals. [Matsushima - col. 10 line 53 - col. 11 line 6]

9. As to claim 5, Matsushima teaches the method of claim 4.

Matsushima does not explicitly teach wherein the parameters are preset in response to user input.

Yun teaches wherein the parameters are preset in response to user input. teach wherein the parameters are preset in response to user input. [abstract; col. 7 lines 41-65; col. 8 lines 40-48, 55-62; col. 9 line 54 - col. 10 line 7]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Yun with the device of Matsushima allowing for viewer selection of preferred viewing quality of transmitted video.

10. As to claim 9, Matsushima (modified by Yun) teaches wherein the information carrying signal carries data representing either or both of a program map table (PMT) and a program and information systems protocol-virtual channel table (PSIP-VCT). [Yun - col. 6 line 61-65; col. 8 line 55 - col. 9 line 12; col. 9 line 28 - PMT is contained with the PSIP]

11. As to claim 10, Matsushima (modified by Yun) teaches wherein the composite signal generating step comprises generating the set of encoded signals such that a lowest quality decoded signal is undelayed, [Matsushima - fig. 5 (1, 2, 5b); col. 9 lines 1-19] and the other encoded signals are delayed with respect to the encoded signal corresponding to the lowest quality decoded signal such that the higher the quality of the corresponding decoded signal, the longer the delay period. [Matsushima - fig. 5 (1 and 4); fig. 7 (1 and 4); col. 9 lines 5-19]

12. As to claim 15, Matsushima teaches staggercasting receiver, for receiving a composite signal [abstract; figs. 3-5; col. 8 lines 31-40] comprising a set of encoded signals, staggered in time, representing content, [fig. 3; fig. 5 (5a, 5b); col. 9 lines 5-14, 42-50] the set capable of being decoded to produce a corresponding set of decoded signals, [fig. 6 (15a, 15b); col. 10 lines 32-40, 53-65] each decoded signal having a quality different from the qualities of the decoded signals corresponding to the other encoded signals, [fig. 6 (15a, 15b); col. 10 lines 32-40, col. 10 lines 13-20 - modulated signal is up converted and amplified; col. 11 lines 18-25 - signal is down converted and demodulated; col. 10 lines 53 - col. 11 lines 6; the signals represent differing qualities being high quality signals and low quality signals] the receiver comprising: a demultiplexer, responsive to the composite signal, for extracting the set of encoded signals, [fig. 6; col. 10 lines 46-65 (emphasis lines 50-52)] detecting errors in respective encoded signals for providing an error representative signal, and producing a subset of available extracted signals which are not erroneous; [fig. 6; col. 10 lines 46-65; col. 11 lines 36-60] a decoder, [fig. 5 (15a and 15b); fig. 7 (15a and 15b)] coupled to the

demultiplexer [fig. 6 (14)] and responsive to the error representative signal, for reproducing a content representative signal at a selectable desired quality. [abstract; fig. 6 (15a, 15b); col. 10 lines 32-40, 46-65; col. 11 lines 36-60] wherein the step of generating a composite signal [abstract; figs. 3-5; col. 8 lines 31-40] wherein the decoding step comprises the step of selecting the content representative signal at the desired quality automatically; [col. 10 line 53 - col. 11 line 6] and wherein the step of selecting the desired quality automatically comprises the step of selecting desired quality in response to preset selection parameters. [col. 10 line 53 - col. 11 line 6 - the present modes represents the selection parameter]

Matsushima does not explicitly teach the step of further including a signal carrying information about respective qualities of the encoded set of signals.

Yun teaches the step of further including a signal carrying information about respective qualities of the encoded set of signals; [abstract; col. 3 lines 26-54; col. 4 lines 2-8, 30-44; fig. 11; col. 10 lines 8-16]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Yun with the device of Matsushima allowing for viewer selection of preferred viewing quality of transmitted video.

13. As to claim 19, Matsushima (modified by Yun) teaches wherein further comprises circuitry for storing selection parameters in response to user input. [abstract; col. 7 lines 41-65; col. 8 lines 40-48, 55-62; col. 9 line 54 - col. 10 line 7; col. 9 line 17-53]

14. As to claim 21, Matsushima (modified by Yun) teaches an on-screen-display device for displaying an image representing information related to the encoded set of

signals. [Yun - abstract; col. 3 lines 26-54; col. 4 lines 2-8, 30-44; fig. 11; col. 10 lines 8-16]

15. As to claim 23, Matsushima (modified by Yun) teaches wherein the television program information carrying signal carries data representing either or both of a program map table (PMT) and a program and information systems protocol-virtual channel table (PSIP-VCT). [Yun - col. 6 line 61-65; col. 8 line 55 - col. 9 line 12; col. 9 line 28 - PMT is contained with the PSIP]

16. Claims 11, 13, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. US 6,535,717 in view of Yun US 6,700,624 further in view of Birru et al. US 2002/0181581.

17. As to claim 11, Matsushima (modified by Yun) teaches the limitations of claim 1. Matsushima discloses robust encoding. [Matsushima - fig. 5 (7); col. 9 lines 52-57; fig. 7 (7)]

However, Matsushima does not explicitly teach wherein the encoding step comprises the step of encoding at least one of the set of encoded signals using a technique which is robust relative to the encoding of the other encoded signals.

Birru teaches wherein the encoding step comprises the step of encoding at least one of the set of encoded signals using a technique which is robust relative to the encoding of the other encoded signals. [fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Birru with the teachings of Matsushima (modified by Yun) allowing for backward compatibility with existing receivers. [Birru - ¶ 0012]

18. As to claim 12, Matsushima (modified by Yun and Birru) teaches wherein the at least one robust encoded signal comprises the encoded signal corresponding to the lowest quality decoded signal. [Matsushima - fig. 5 (7); col. 9 lines 45-57; fig. 7 (7); Birru - fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

19. As to claim 13, Matsushima (modified by Yun and Birru) teaches wherein the set of encoded signals are channel encoded, and the robust encoded signals are channel encoded using a channel coding technique robust relative to the channel coding technique used for the non-robust encoded signals. . [Matsushima - fig. 5 (7); col. 9 lines 45-57; fig. 7 (7); Birru - fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

20. As to claim 14, Matsushima (modified by Yun and Birru) teaches wherein the channel coding for the robust encoded signals is one of 4-VSB or 2-VSB modulation and the channel coding for the non-robust encoded signals is 8-VSB modulation. [Birru - fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

21. As to claim 24, Matsushima (modified by Yun) teaches the limitations of claim 15. Matsushima discloses robust encoding. [fig. 5 (7); col. 9 lines 52-57; fig. 7 (7)]

However, Matsushima does not explicitly teach wherein at least one of the set of encoded signals is encoded using a technique which is robust relative to the encoding of the other signals, and the decoder comprises a decoder, responsive to the at least one encoded signal, for decoding the at least one encoded signal.

Birru teaches wherein at least one of the set of encoded signals is encoded using a technique which is robust relative to the encoding of the other signals, and the decoder comprises a decoder, responsive to the at least one encoded signal, for decoding the at least one encoded signal. [fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Birru with the teachings of Matsushima (modified by Yun) allowing for backward compatibility with existing receivers. [Birru - ¶ 0012]

22. As to claim 25, Matsushima (modified by Yun and Birru) teaches wherein the at least one robust encoded signal comprises the encoded signal corresponding to the lowest quality decoded signal. [Matsushima - fig. 5 (7); col. 9 lines 45-57; fig. 7 (7); Birru - fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

23. As to claim 26, Matsushima (modified by Yun and Birru) teaches wherein: the set of encoded signals are channel coded, and the robust encoded signals are channel encoded using one of 4-VSB or 2-VSB modulation and the other encoded signals are channel encoded using 8-VSB modulation; [Birru - fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031] and the decoder comprises a demodulator for channel decoding the robust encoded signals using one of 4-VSB or 2-VSB demodulation and channel decoding the other encoded signals using 8-VSB demodulation. [Matsushima - fig. 5 (7); col. 9 lines 45-57; fig. 7 (7); Birru - fig. 2; fig. 4; ¶ 0018-0020; ¶ 0029-0031]

24. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. US 6,535,717 in view of Yun US 6,700,624 further in view of Nakamura et al US 6,687,305.

25. As to claim 27, Matsushima (modified by Yun) teaches wherein the composite signal comprises the set of encoded signals such that a lowest quality decoded signal is undelayed, [Matsushima - fig. 5 (1, 2, 5b); col. 9 lines 1-19] and the other encoded signals are delayed with respect to the encoded signal corresponding to the lowest quality decoded signal such that the higher the quality of the corresponding decoded signal, the longer the delay period; [Matsushima - fig. 5 (1 and 4); fig. 7 (1 and 4); col. 9 lines 5-19]

Matsushima (modified by Yun) does not explicitly teach the receiver further comprising a plurality of delay circuits, coupled between the demultiplexer and the decoder and respectively responsive to the set of extracted encoded signals, for realigning the extracted encoded signals in time.

Nakamura teaches the receiver further comprising a plurality of delay circuits, [fig. 3 (52, 51) ; fig. 3 (52, 51, 62); fig. 5 (52, 51, 62); fig. 7 (52, 51, 62)] coupled between the demultiplexer [fig. 3 (21); fig. 5 (21); fig. 7 (21)] and the decoder [fig. 3 (63, 61); fig. 5 (61, 63); fig. 7 (61, 63)] and respectively responsive to the set of extracted encoded signals, for realigning the extracted encoded signals in time. [fig. 3; fig. 5; fig. 7; col. 7 lines 4-20; col. 8 lines 55-59]

It would obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakamura with the teachings of Matsushima (modified by Yun) allowing for improved signal transmission for display/reproduction.

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **ANNER HOLDER** whose telephone number is **571-270-1549**. The examiner can normally be reached on **M-W, M-W 8 am-3 pm EST**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Ustaris can be reached on **571-272-7383**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2621
/Tung Vo/
Primary Examiner, Art Unit 2483